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WPI Acc No: 1994-111974/199414

XRAM Acc No: C94-051598

Prod. of highly stereoselective beta-lactam deriv. - by
 reacting lithium enolate of organic ester with imine coordinated with
 trialkyl-aluminium in THF

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Number of Countries: 001 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 6056770	A	19940301	JP 85219681	A	19851002	199414 B
			JP 91125207	A	19851002	
✓ JP 95051558	B2	19950605	JP 85219681	A	19851002	199527
			JP 91125207	A	19851002	

Priority Applications (No Type Date): JP 85219681 A 19851002; JP 91125207 A 19851002

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 6056770	A		6	C07D-205/08	Div ex application JP 85219681
JP 95051558	B2		6	C07D-205/08	Div ex application JP 85219681

Based on patent JP 6056770

Abstract (Basic): JP 6056770 A

Beta-lactam deriv. is obtd. by reaction of a lithium enolate of an organic ester with an organic imine cpd. An imine coordinated with a trialkylaluminium is used as the organic imine cpd. and the reaction is carried out in THF.

ADVANTAGE - The prod. is prepd. with high selectivity.

In an example, 12 mmol. of n-butyl lithium (15% hexane soln.) was added to 7 ml. of n-hexane soln. of 12 mmol. diisopropylamine while ice-cooling under N₂ stream. The mixt. was stirred for 30 min. and then n-hexane was distilled off in vacuo. 5 ml. THF was added to the residue and the mixt. was cooled to (-) 78 deg.C. 10 mmol. Of ethyl isobutyrate was added in 3 minutes and then THF soln. of 10 mmol. C₆H₅CH=NC₆H₅ and THF soln. of 10 mmol. Aluminium tri-acetate were added. The mixt. was heated gradually to room temp. in 2 hrs. It was hydrolysed with 1N HCl and the hydrolysate was extracted by benzene. Benzene was distilled off to give the beta-lactam. The yield was 75% and the cis-trans ratio was 100:0.

Dwg. 0/0

Title Terms: PRODUCE; HIGH; STEREOSELECTIVE; BETA; LACTAM; DERIVATIVE;
 REACT; LITHIUM; ENOLATE; ORGANIC; ESTER; IMINE; COORDINATE; TRI; ALKYL;
 ALUMINIUM; THF

Index Terms/Additional Words: TETRA; HYDRO; FURAN

Derwent Class: B03

International Patent Class (Main): C07D-205/08

File Segment: CPI

Manual Codes (CPI/A-N): B07-D01

Chemical Fragment Codes (M2):

01 F011 F012 F013 F014 F410 G010 G019 G030 G039 G100 G111 G112 G563
 G599 H2 H211 H401 H402 H403 H481 H482 H483 J5 J521 L640 L9 L941 M113